ered by him on the moon with the 6-inch telescope of the Observatory of Prague, on April 1, 1890. Its situation is

East Longitude $-49°.2$
South Latitude $-12°.6$

Its interior diameter is about 1800 meters or 1 nautical mile (1″).

This object has been verified by T. GWYN ELGER, esq. (see the *Observatory*, February, 1892, p. 113), and its position and surroundings sketched by Professor HOLDEN with the 12-inch telescope at Mt. Hamilton. It is somewhat remarkable that SCHMIDT'S great lunar map does not show this formation.

SIRIUS.

BY ANDREW GRIEG, TAYPORT, SCOTLAND.

This is the most brilliant star in the heavens, and is sometimes called the leader of the host of heaven. It lies under the beautiful constellation of *Orion*, and a little to the left-hand. Its splendor is so great that it has been perceived at mid-day with a telescope of half-inch aperture, and it has even been seen with the naked eye in broad sunshine. It is one of the stars whose parallax is known, and consequently its distance. The recent determination of its parallax by Dr. GILL, Royal Astronomer at Cape of Good Hope, shows *Sirius* to be much nearer than it was formerly believed to be. Its distance is equal to about nine light-years. Dr. HUGGINS, the eminent Spectroscopist and President of the British Association, tells us that the nearest star is so far off, that if it were approaching us at the rate of one hundred miles per second, a whole century of such rapid approach would not do more than increase its brightness by the one-fortieth part. Photometric observations combined with its ascertained parallax show that *Sirius* emits from forty to sixty times the light of our sun.

The old astronomical methods cannot tell us if the stars are coming directly towards us, or going directly from us. The spectroscope here comes to our aid, and enables us to find the motion of a star in the light of sight. It can measure the speed of approach or of recession of a heavenly body with very great accuracy—probably to about a mile per second. The early spec-

troscopic observations at Greenwich seem to show that *Sirius* recedes from us at one time with a velocity of about twenty-two miles per second, and at another time is coming towards us at the same rate, as it moves in an elliptic orbit.

Certain minute changes in the motions of this brightest of the stars induced BESSEL, the famous astronomer of Königsberg, to suspect the existence of some, as yet unseen, companion sun, whose disturbing influence might account for the unusual displacements. AUWERS, another astronomer, calculated the probable elements of this unseen disturbing mass. Ultimately, a companion star was discovered by Mr. ALVAN G. CLARK (maker of the object-glass for the great LICK telescope), by means of the refractor of 18½-inch aperture made by himself. This excellent instrument now belongs to the Observatory of Northwestern University. The companion, though at least one-tenth as heavy as *Sirius* itself, can only be seen under favorable conditions, for its light is not more than one-12,000th part of that emitted by *Sirius*.

THE PROPER MOTIONS OF STARS WITH DIFFERENT SPECTRA.

BY W. H. S. MONCK.

Having recently examined M. BOSSERT's catalogue of stars with proper motion of 0″.5 annually, with the spectra of such as I could identify in the DRAPER catalogue, I think the result worth giving, especially as the spectra of the remainder can be tabulated according as they are examined. M. BOSSERT's catalogue sometimes includes two members of a binary system and in other places two determinations of the proper motion of the same star (occasionally disguised by giving it a different designation). Duplicates of this kind can be detected when the stars are arranged in order of R. A. instead of by the magnitude of their proper motions, and this order will, I think, also bring to light the fact that the motion of the sun in space affects the apparent proper motions of the stars more largely than is commonly supposed. Assuming the R. A. of the sun's *goal* to be 280°, its motion will tend to diminish the Right Ascensions of all stars between 100° (6^h 40^m) and 280° (18^h 40^m) and to increase the Right Ascension of all